

What is claimed is:

1. A friction reducing ship that reduces frictional resistance by ejecting gas bubbles on a submerged surface of a ship body, wherein the gas bubbles are generated as a result of the ship body cruising through a body of water to create in the water a negative pressure region having a pressure lower than a pressure in a gaseous space and directing a gas from the gaseous space to the negative pressure region in the water.
2. A method for reducing frictional resistance of a ship body by ejecting gas bubbles on a submerged surface of the ship body by creating in the water a negative pressure region, having a pressure lower than a pressure in a gaseous space, resulting from the ship body cruising through a body of the water, and directing a gas from the gaseous space to the negative pressure region in the water.
3. A friction reducing ship, that reduces frictional resistance by ejecting gas bubbles on a submerged surface of a ship body, comprising a bubble generation apparatus for generating micro-bubbles by creating a negative pressure state in a portion of water admitted from a water intake opening provided below a waterline in a bow section of the ship body so as to eject atmospheric air into the water and discharging the micro-bubbles together with the water to a water discharge opening provided in a bottom section of the ship.
4. A friction reducing ship, that reduces frictional resistance by ejecting gas bubbles on a submerged surface of a ship body, comprising:
 - a water transport passage provided on an external hull plate so as to extend from a water intake opening provided below a waterline in a bow section of the ship body to a water discharge opening provided in a bottom section of the ship body, and having an air discharge opening disposed partway along the passage;
 - an air transport passage extending from above the water to the air discharge

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opening; and

a gas ejection member protruding toward an inner side of the water transport passage and provided in such a way to cover the air discharge opening having a gas ejection opening; wherein

the air discharge opening is situated in a location such that a hydrostatic pressure at the air discharge opening is negative with respect to an atmospheric pressure existing above the water.

5. A friction reducing ship according to one of claim 3 or 4, wherein the water discharge opening in the bottom section is located in a widthwise center in the vicinity of the bow section of the ship body.

6. A method for reducing frictional resistance of a ship body by creating a negative pressure state in a portion of water admitted from a water intake opening provided in a bow section of the ship body below a waterline so as to generate micro-bubbles by ejecting atmospheric air into the water and discharging the micro-bubbles together with the water to a water discharge opening provided in a bottom section of the ship body.

7. A method according to claim 6, wherein the water discharge opening in the bottom section is located in a widthwise center in the vicinity of the bow section of the ship body.

8. A method for reducing frictional resistance of a ship by ejecting gas bubbles on a submerged surface of a ship body by creating in the water a negative pressure region, having a pressure lower than a pressure in a gaseous space, resulting from the ship body cruising through a body of water, and directing a gas from the gaseous space to the negative pressure region in the water and forming a flow of water having locally severe vortices.

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9. A friction reducing ship, that reduces frictional resistance by ejecting gas bubbles on a submerged surface of a ship body, comprising:
- a negative pressure forming section for creating a negative pressure region in water having a lower pressure relative to a gaseous space;
 - a fluid guiding passage for directing a gas from the gaseous space to the negative pressure region; and
 - a detaching promotion section for forming a water flow having locally severe vortices.
10. A friction reducing ship according to claim 9, wherein the negative pressure forming section is comprised by a wing protruding into water from a submerged surface of the ship body; struts for supporting the wing; a flow guiding body disposed on a ship side of the wing.
11. A friction reducing ship according to claim 10, wherein the detaching promotion section is comprised by the said formed on a side of the ship body so as to have a \sqcap -shape, and the flow guiding body formed so as to follow a shape of the wing.
12. A friction reducing ship, that reduces frictional resistance by ejecting gas bubbles on a submerged surface of a ship body, comprising:
- a negative pressure forming section protruding from the submerged surface for creating a negative pressure region in a water relative to a gaseous space;
 - a discharge opening for ejecting the gas bubbles towards the negative pressure region in the water;
 - a fluid passage having one end open to the gaseous space and having other end open in the water by way of the discharge opening so as to direct a gas from the gaseous space into the water; wherein
 - the discharge opening is disposed on an inclined surface inclined at an angle to

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16. A method for reducing frictional resistance by ejecting gas bubbles on a submerged surface of a ship body by creating in a water a negative pressure region, having a pressure lower than the pressure in a gaseous space, resulting from the ship

body cruising through a body of the water, and directing a gas from the gaseous space to the negative pressure region in the water, and generating a circulating flow of the water by using a wing to expand the negative pressure region.

17. A friction reducing ship, that reduces frictional resistance by ejecting gas bubbles on a submerged surface of a ship body, comprising:

a negative pressure forming section protruding from the submerged surface for creating a negative pressure region in a water relative to a gaseous space;

a discharge opening disposed in a rear of the negative pressure forming section for ejecting the gas bubbles towards the negative pressure region in the water;

a fluid passage having one end open to the gaseous space and having other end open in the water by way of the discharge opening so as to direct a gas from the gaseous space into the water; wherein

the negative pressure forming section is provided with a wing shaped component whose cross sectional shape is formed in a wing shape.

18. A friction reducing ship according to claim 17, wherein the wing shaped component is disposed so as to generate an uplifting force.

19. A friction reducing ship, that reduces frictional force by ejecting gas bubbles on a submerged surface of a ship body, comprising:

a discharge opening disposed on the submerged surface for ejecting the gas bubbles into a water;

a fluid passage having one end open to the gaseous space and having other end open in the water by way of the discharge opening so as to direct a gas from the gaseous space into the water; wherein

at least a portion of the fluid passage is comprised by component members to form outer shell of the ship body.

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and

20. A friction reducing ship according to claim 19, wherein at least a portion of the component member forming the fluid passage comprise a reinforcing component member of the ship body.

21. A friction reducing ship according to one of claim 19 or 20, wherein the fluid passage is divided into a plurality of passages.

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